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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,127	03/15/2004	Daniel A. Chandler	MP1744-US1	3409
27788 7590 11/10/2009 Tyco Electronics Corporation 309 Constitution Drive Mail Stop R34/2A Menlo Park, CA 94025				
EXAMINER BAISA, JOSE LITO SASIS				
ART UNIT		PAPER NUMBER		
2832				
MAIL DATE		DELIVERY MODE		
11/10/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/802,127

**Applicant(s)**

CHANDLER ET AL.

**Examiner**

JOSELITO BAISA

**Art Unit**

2832

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 6-10 and 16 is/are allowed.
- 6) ☒ Claim(s) 1-5, 11-15 and 17-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2004 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date 06/29/09.
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 11-15 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagahori [5039844] in view of Wartenberg [5747147].

Regarding claims 1, 11 and 17, Nagahori discloses a laminar PTC resistive element 2 having first and second major surfaces and a thickness therebetween, the resistive element comprising a conductive polymer;

a first electrode layer 3b formed at the first major surface and being substantially coextensive therewith, and comprising a first metal material of a type adapted to be soldered to a printed circuit substrate for effecting surface mounting of the device;

a second electrode layer 3a formed at the second major surface and being substantially coextensive therewith; and

lead (weld) plate 4a of metal material formed separately of and extending from the second electrode layer 3a and having a volume, thickness and thermal mass capable of withstanding resistance spot welding of electromechanical interconnect means without significant resultant damage to the device [Col. 3, Lines 1-20] and [Col. 4, Lines 1-43, Figures 1 and 2].

Nagahori discloses the instant claimed invention discussed above except for a strap interconnect attached to the protective device.

Wartenberg discloses a strap can be connected to a PTC device [Col. 5, Lines 45-50].

It would have been obvious to one having ordinary skill in the art at the time of the invention to use a strap as taught by Wartenberg to the PTC device of Nagahori.

The motivation would have been to allow electrical connection of the PTC device to a circuit board [Col. 5, Lines 45-50].

Regarding claim 2, Nagahori discloses the second electrode layer 3a is formed as a foil layer, and wherein the lead (weld) plate means is formed separately of the second electrode layer 3a and is attached thereto by an attachment layer of electrically conductive material [Col. 4, Lines 15-25].

Regarding claim 3, 4, 15 and 20, Nagahori discloses the lead (weld) plate comprises nickel [Col. 5, Lines 38-40].

Regarding claim 5, Nagahori discloses the attachment layer comprises solder [Col. 6, Lines 15-16].

Regarding claims 12 and 19, Nagahori discloses the lead (weld) plate means has a minimum thickness in a range of 0.100 mm and 0.300 mm [Col. 5, Lines 38-40].

Regarding claims 13 and 14, Nagahori discloses the lead (weld) plate has a thickness of approximately 0.250 mm [Col. 5, Lines 38-40].

Nagahori discloses the instant claimed invention discussed above except for the strap interconnect means has a thickness not substantially greater than 0.150 mm.

Since Nagahori discloses a lead (weld) plate of about 0.100 mm it would have been obvious to one having ordinary skill in the art at the time of the invention to use a strap that is about 0.150 mm and 0.250 mm.

Nagahori is aware of the damage that can be done on a PTC if welding process is not done appropriately [Col. 4, Lines 36-40].

Regarding claim 18, Wartenberg discloses a first tab comprising strap interconnect means capable of being and a second tab being connected to circuitry of the printed circuit substrate [Col. 5, Lines 28-48].

#### ***Allowable Subject Matter***

Claims 6-10 and 16 are allowed.

Reason for allowable subject matter:

Claims 6, 16 recite, inter alia, *weld plate means includes a raised central mesa region, and further comprising an insulative box surrounding outer edges of a device and defining an opening exposing the central mesa region.*

The references of record do not teach or suggest the aforementioned limitation, would it be obvious to modify those references to include such limitation.

#### ***Response to Arguments***

Applicant's arguments with respect to claims 1-5, 11-15 and 17-20 have been considered but are moot in view of the new ground(s) of rejection.

Nagahori discloses a laminar PTC resistive element 2 having first and second major surfaces and a thickness therebetween, the resistive element comprising a conductive polymer;

a first electrode layer 3b formed at the first major surface and being substantially coextensive therewith, and comprising a first metal material of a type adapted to be soldered to a printed circuit substrate for effecting surface mounting of the device;

a second electrode layer 3a formed at the second major surface and being substantially coextensive therewith; and

lead (weld) plate means of metal material formed separately of and extending from the second electrode layer 3a and having a volume, thickness and thermal mass capable of withstanding resistance spot welding of electromechanical interconnect means without significant resultant damage to the device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joselito Baisa whose telephone number is (571) 272-7132. The examiner can normally be reached on M-F 5:30 am to 2:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Elvin G Enad/  
Supervisory Patent Examiner, Art Unit 2832

Joselito Baisa  
Examiner  
Art Unit 2832

/J. B./  
Examiner, Art Unit 2832